

AMENDMENT TO THE CLAIMS:

This listing of claims will replace all prior versions of claims in the application:

LISTING OF CLAIMS:

1. (CURRENTLY AMENDED) ~~A composite ring for coupling a disk to a spindle~~
An assembly, comprising:
a magnetic disk; and
a composite ring engaging the disk, the composite ring comprising:
 - an upper layer constructed of a material having a Young's modulus greater than or equal to a primary material of the disk; and
 - a lower layer fixedly coupled to the upper layer without requiring external biasing thereagainst for the fixed coupling, the lower layer being constructed of a material having similar properties to that of the disk, the properties being selected from a group consisting of a coefficient of thermal expansion, thermal conductivity and Young's modulus,wherein neither the upper layer nor a layer of a same material as the upper layer is positioned along a full extent of an area between the lower layer and the disk.
2. (WITHDRAWN) A composite ring as recited in claim 1, wherein the upper layer has a Young's modulus between about 20 to about 250 GPa .
3. (CURRENTLY AMENDED) ~~A composite ring~~ An assembly as recited in claim 1, wherein the Young's modulus of the upper layer is between about 60 to about 300 GPa.

4. (CURRENTLY AMENDED) ~~A composite ring~~ An assembly as recited in claim 1, wherein the upper layer is constructed of a material selected from a group consisting of chrome, titanium, nickel, stainless steel and composites thereof.
5. (CURRENTLY AMENDED) ~~A composite ring~~ An assembly as recited in claim 1, wherein the lower layer has a thermal expansion of between about 1 and 25 ($10^{-6}/^{\circ}\text{C}$).
6. (CURRENTLY AMENDED) ~~A composite ring~~ An assembly as recited in claim 1, wherein the lower layer is constructed of a material selected from a group consisting of aluminum and glass.
7. (WITHDRAWN) A composite ring as recited in claim 1, further comprising a middle layer fixedly coupled between the upper and lower layers.
8. (CURRENTLY AMENDED) ~~A composite ring~~ An assembly as recited in claim 1, wherein the layers are coupled together via mechanical bonding.
9. (CURRENTLY AMENDED) ~~A composite ring~~ An assembly as recited in claim 1, wherein the layers are coupled together by an adhesive.
10. (CURRENTLY AMENDED) ~~A composite ring~~ An assembly as recited in claim 1, wherein the layers are coupled together at a molecular level.
11. (CURRENTLY AMENDED) ~~A composite ring~~ An assembly as recited in claim 1, wherein a ratio of the Young's modulus of the upper layer to the Young's modulus of the lower layer is between about 1 and 5.
12. (WITHDRAWN) A composite ring for coupling a disk to a spindle, comprising:

a upper layer constructed of a material having a Young's modulus greater than or equal to a primary material of the disk; and
a lower layer fixedly coupled to the upper layer without requiring external biasing thereagainst for the fixed coupling, the lower layer being constructed of a material having similar properties to that of the disk, the properties being selected from a group consisting of a coefficient of thermal expansion wherein the upper layer has a hardness of greater than about 20 kg/mm²;
wherein the upper layer has a Young's modulus of greater than about 60 GPa.

13. (WITHDRAWN) A composite ring as recited in claim 12, wherein the upper layer is constructed of a material selected from a group consisting of chrome, titanium, nickel, stainless steel and composites thereof.
14. (WITHDRAWN) A composite ring as recited in claim 12, wherein the lower layer has a thermal expansion between about 1 and 25 (10⁻⁶/C) .
15. (WITHDRAWN) A composite ring as recited in claim 12, wherein the lower layer is constructed of a material selected from a group consisting of aluminum and glass.
16. (WITHDRAWN) A composite ring as recited in claim 12, further comprising a middle layer fixedly coupled between the upper and lower layers.
17. (WITHDRAWN) A composite ring as recited in claim 12, wherein the layers are coupled together via mechanical bonding.
18. (WITHDRAWN) A composite ring as recited in claim 12, wherein the layers are coupled together by an adhesive.

19. (WITHDRAWN) A composite ring as recited in claim 12, wherein the layers are coupled together at a molecular level.
20. (WITHDRAWN) A composite ring as recited in claim 12, wherein a ratio of the Young's modulus of the upper layer to a modulus of the lower layer is between about 1 and 5.
21. (WITHDRAWN) A composite ring for coupling a disk to a spindle, comprising:
a upper layer; and
a lower layer fixedly coupled to the upper layer without requiring external
biasing thereagainst for the fixed coupling, the lower layer being
constructed of a material having similar properties to that of the disk, the
properties being selected from a group consisting of a coefficient of
thermal expansion and thermal conductivity;
wherein the upper layer has a Young's modulus greater than that of a primary
material of the disk;
wherein a ratio of the modulus of the upper layer to a modulus of the lower layer
is between about 1 and 5.
22. (WITHDRAWN) A composite ring as recited in claim 21, wherein the lower
layer has a thermal expansion between about 1 and 25 ($10^{-6}/^{\circ}\text{C}$).
23. (WITHDRAWN) A composite ring as recited in claim 21, wherein the lower
layer is constructed of a material selected from a group consisting of aluminum
and glass.
24. (WITHDRAWN) A composite ring as recited in claim 21, further comprising a
middle layer fixedly coupled between the upper and lower layers.

25. (WITHDRAWN) A magnetic storage system, comprising:
- magnetic media coupled to a spindle using the composite ring of claim 1;
 - at least one head for reading from and writing to the magnetic media, each head having:
 - a sensor;
 - a write element coupled to the sensor;
 - a slider for supporting the head; and
 - a control unit coupled to the head for controlling operation of the head.